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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,121

02/04/2009

Nazir Khan

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23557 7590 10/27/2011
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EXAMINER

HIGGINS, GERARD T

ART UNIT

PAPER NUMBER

1785

NOTIFICATION DATE

DELIVERY MODE

10/27/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

euspto@slepatents.com

Office Action Summary	Application No.	Applicant(s)	
	10/584,121	KHAN ET AL.	
	Examiner	Art Unit	
	GERARD HIGGINS	1785	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 12-33 is/are pending in the application.
- 5a) Of the above claim(s) 12-21 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 22-33 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☒ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/19/2007 and 07/30/2010</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group IV, claims 22 and 23 and now claims 22-33, in the reply filed on 09/09/2011 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 12-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 09/09/2011.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

4. The disclosure is objected to because of the following informalities:

At page 14 on line 16, the phrase "preferred component" is objected to grammatically. The objection can be overcome by changing this phrase to "preferred marking component".

Appropriate correction is required.

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The limitations that a “metal salt absorbs laser radiation at 700-2000 nm thereby causing the marking component to change colour” in claim 22, which finds support from original claim 1, does not have antecedent basis in the specification. Please amend page 2 of the specification to include *only* these limitations.

Claim Objections

6. Claims 26 and 29-33 are objected to because of the following informalities:

In claims 26, 29, and 30, the phrase “the salt is’ is objected to grammatically. The objection can be overcome by changing the phrase to “the metal salt is” which is how the claims will be interpreted.

In claims 31-33, the phrase “the formulation” is objected to grammatically. The objection can be overcome by changing the limitations to “the ink formulation” which is how the claims will be interpreted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. Claims 22-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

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which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With regard to claim 22, the Examiner does not find support for the limitations “wherein the marking component in the absence of the metal salt undergoes a color change in response to laser irradiation at a wavelength above 2000 nm but not between 700-2000 nm” in the specification as originally filed. These ranges do not find support in the specification as originally filed; furthermore, there is no support for the negative limitations claimed.

8. Claims 22-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 22, the limitations that “the marking component in the absence of the metal salt undergoes a colour change” and “the metal salt absorbs laser radiation at 700-2000 nm thereby causing the marking component to change colour” render the claims indefinite because it is unclear if these are positively recited method steps or if they are functional limitations of the marking component and metal salt. Additional evidence that these limitations are indefinite is in the fact that the laser is only generally recited in claim 22 and claim 23 has a CO₂ laser which has a wavelength of ~10000 nm. This rejection can be overcome by changing the limitations to “the marking component in the absence of the metal salt can undergo a colour change” and “the

metal salt can absorb laser radiation at 700-2000 nm which can thereby cause the marking component to change colour” which is how the claims will be interpreted.

Claim Rejections - 35 USC § 102

9. Claims 22-25 and 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Khan (WO 02/074548).

With regard to claims 22-25 and 31-33, Khan discloses the Example 8 which has ammonium octamolybdate and Iridin 805, which is an IR absorber (pg 5, lines 17-22). Ammonium octamolybdate is applicants’ preferred marking component, and therefore it will inherently have the absorption properties claimed. The IR absorber allows the film to be marked with a Nd-YAG laser of ~1064 nm (pg 5, lines 23-26). The laser markable composition may be formed by using an ink formulation, including water or solvent, on a substrate (pg 3, lines 9-11 and pg 4, lines 24-28). A binder may be used (pg 3, lines 12-14).

10. Claims 22, 26, and 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Satake et al. (JP 2530233), machine translation included.

With regard to claims 22, 26, and 31-33, Satake et al. teach forming an optical recording material using a copper hydroxide, which reads on applicants’ metal salt, and crystal violet lactone, which reads on applicants’ marking component (pg 3 and pg 12). They can be in a water or solvent based system and coated on a substrate with a binder (pg 3). Please note that light source to excite the copper is listed as 600-1000 microns;

however, this is a typographical error and should be nanometers (pg 3). Based upon the fact that crystal violet lactone is one of applicants' preferable marking components in their specification, it will inherently have the absorption properties claimed.

11. Claims 22, 23, 26, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kulper et al. (5,626,966).

With regard to claims 22, 23, 26, and 30, Kulper et al. teach a laser label that is made from copper hydroxide phosphate, which reads on applicants' metal salt, and a polyurethane acrylate based polymer, which reads on applicants' marking component (col. 3, line 66 to col. 4, line 10). These materials are applied onto a PET sheet which reads on the substrate. A polyurethane acrylate will absorb in the mid-IR based upon the bond stretching/bending etc. frequencies, which would be reflected in a FTIR spectrum (3000 cm^{-1} to 500 cm^{-1}) and will inherently not absorb in the near-IR.

12. Claims 22-24, 26, 27, 29, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Delp et al. (EP 1279517), machine translation included.

With regard to claims 22-24, 26, 27, 29, and 31, Delp et al. teach a laser light-absorbing substance that can be a copper oxide or a tin-antimony mixed oxide, which reads on applicants' copper salts and poly-metal salts, respectively [0016] and [0018]. This is combined with chromate-molybdate pigments [0014], which reads on applicants' marking component of oxymetal anions. There may be a binder [0024] and the coating may be marked with a CO_2 laser [0032].

13. Claims 22, 23, 26, 29, 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Satake et al. (4,849,396).

Satake et al. teach a metal double salt that may have copper and a leuco dye, including crystal violet lactone, which reads on applicants' copper salt and poly-metal salt (col. 3, lines 59-66 and col. 7, lines 26-28). There may be a binder, water, or solvent used (col. 7, lines 62-65 and col. 8, lines 10-13).

Claim Rejections - 35 USC § 103

14. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Delp et al. (EP 1279517) in view of Khan (WO 02/074548).

Delp et al. teach that their paint may be in the form of a coating composition but they do not state if the paint or coating composition is water or solvent based.

Khan teaches applying laser markable compositions using water or solvent based compositions (pg. 3, lines 9-11).

Since Delp et al. and Khan are drawn to laser markable compositions; it would have been obvious to one having ordinary skill in the art at the time the invention was made to have had the paint/coating composition be a water or solvent based coating composition as taught by Khan as these are known methods for applying laser sensitive films.

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15. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulper et al. (5,626,966) in view of Khan (WO 02/074548).

Kulper et al. teach that their composition may be coated but they do not state if the paint or coating composition is water or solvent based.

Khan teaches applying laser markable compositions using water or solvent based compositions (pg. 3, lines 9-11).

Since Kulper et al. and Khan are drawn to laser markable compositions; it would have been obvious to one having ordinary skill in the art at the time the invention was made to have had the coating composition be a water or solvent based coating composition as taught by Khan as these are known methods for applying laser sensitive films.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Examiner notes that US 5489639 is cumulative to the present rejections and the Examiner notes [0040] of US 2005/0231585; however, this reference is not prior art as applicants' priority documents antedate the provisional application of the reference and the priority document is in English.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 10am-8pm est. (Variable one work-at-home day).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached on 571-272-1291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GERARD T. HIGGINS/
Primary Examiner, Art Unit 1785

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